



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,246	01/23/2004	Golan Hanina	Q79575	4514

23373 7590 03/23/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,246

Applicant(s)

HANINA ET AL.

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-22 and 36-43 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 23-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/11/04, 01/21/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 12 and 33 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claims [or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form]. Each of claims 12 and 33 recites the light emitters comprising "solid state light emitters", which have been already and clearly defined as such in the respective base claims 1 and 23.

Based on the above objection to claims 12 and 33, it is suggested that claims 13-14 should claim dependency directly from the base claim 1, and that claims 34-35 should claim dependency directly from the base claim 23.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Art Unit: 2861

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Montroy et al. (U.S. 5,788,352).

Montroy et al. discloses a multiplexed multi-image source display writing system comprising a plurality of solid state light emitters (single or plural illumination sources 14 can be used) (col. 7, lines 53-62), and a scanner (multiplexer 13) operative to sequentially receive light from said plurality of solid state light emitters and to provide a time-multiplexed light output (the multiplexer 13, e.g. galvanometer-mounted mirror or polygon mirror, sequentially receives and deflects the light beams emitted from the plural illumination sources 14 to form a combined light beam to be written onto the photoactivated light valve 12) (col. 7, lines 26-48).

The method claim 23 is deemed to be clearly anticipated by functions of the above structures.

4. Claims 1-4, 12-14, 23-26, 33-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Kane et al. (U.S. 6,753,931).

Kane et al. discloses a laser-based display system comprising a plurality of solid state light emitters (diode lasers 12, 16, 20 or light source 202 comprising a plurality of pulsed light sources), and a scanner (polygon mirror 212) operative to sequentially

Art Unit: 2861

receive light from said plurality of solid state light emitters and to provide a time-multiplexed light output (the polygon mirror 212 whose successive facets sequentially receive the pulsed beams from the light source 202 as being diffracted at different times by the light valve 220 to produce the time-multiplexed light beam with non-overlapping sequence pulses 205, 207, 209) (Fig. 6) (col. 12, lines 21-30).

Kane et al. further teaches:

- said solid state light emitters are operative in a pulsed mode (e.g., pulses 205, 207, 209);
- said solid state light emitters are operative to output light pulses in a sequence (Fig. 6);
- operation of said solid state light emitters in said pulsed mode is synchronized with operation of said scanner such that light from each of said solid state light emitters is received by said scanner at a time corresponding to a light output of said light emitter (a synchronization mechanism 230 coordinates the timing of the pulses 205, 207, 209 with the rotation of the polygon mirror 212 via control 214) (col. 12, lines 31-63);
- said solid state light emitters comprise light emitting diodes or diode lasers (col. 8, lines 30-51).

The claim methods 23-26 and 33-35 are deemed to be clearly anticipated by functions of the above structures.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al. in view of Walker et al. (U.S. 5,327,451).

Kane et al. discloses all the basic limitations of the claimed invention except for the current pulse being higher than a steady state operation current.

Walker et al. discloses a laser diode scanner system comprising a laser diode (23) being driven in a pulsed mode wherein the peak current must be increased as compared to that in a continuous mode (col. 6, lines 23-29).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a higher drive current for driving the laser diodes of the device of Kane et al. in the pulsed mode as taught by Walker et al. since Walker et al. teaches this to be well known in the art that the laser diode requires a higher drive current in the pulsed mode as compared to the continuous mode.

7. Claims 6 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al. in view of Walker et al., as applied to claims 1, 5 above, and further in view of Ishizuka et al. (U.S. 6,617,801).

Kane et al., as modified by Walker et al., discloses all the basic limitations of the claimed invention except for the brightness of light pulses emitted by said solid state light emitters when operating in a pulsed mode is greater than a brightness of light emitted by said solid state light emitters when operating in a steady state of operation.

However, it is old and well known in the art that the brightness of the light emitting diode is proportional to the drive current supplied to the light emitting diode as evidenced by Ishizuka et al. at col. 1, lines 33-47) (Fig. 2). Since the drive current of the laser diode in the pulsed mode is higher than that in the continuous mode, the brightness of the laser diode in the pulsed mode is higher.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to been to provide a higher brightness to the pulsed-mode operating laser diodes of the device of Kane et al. as taught by Ishizuka et al. since Ishizuka et al. teaches this to be old and well known in the art.

Allowable Subject Matter

8. Claims 15-22 and 36-43 are allowed.
9. Claims 7-11 and 29-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is an examiner's statement of reasons for allowance: claims 15 and 36 are patentable over the prior art patents and printed publications because of the specific configuration of the recording information system and method, which includes a

Art Unit: 2861

scanner operative to sequentially receive pulsed light from the plurality of solid state light emitters and to output a combined beam of light including light pulses from the solid state light emitters and a modulator operative to modulate said combined beam generated from the scanner. The combined limitations as claimed are not taught by the prior art of record considered alone or in combination.

Claims 16-22 and 37-43 are allowable because they are directly or indirectly dependent from claims 15 and 36 above.

11. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claims 7 and 29 is the inclusion therein, in combination as currently claimed, of the limitation "said light emitters are arranged in a loop", which is not found taught by the prior art of record considered alone or in combination.

Claims 8-11 and 30-32 are allowable because they are directly or indirectly dependent from claims 7 and 29 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

March 18, 2006